REMARKS

Support for the language newly added to claim 1 is found in paragraph [0043] at page 11 of applicants' specification.

Responsive to paragraph 3 of the office action, claim 20 has been amended to depend from claim 11 as originally intended. Dependency from claim 1 represented a typographical error.

It is respectfully submitted that this latest amendment raises no new issue which would require further search because the examiner has conducted two searches and has developed art which would have included disclosure of the newly recited feature of applicants' invention, if such a prior art disclosure existed. Further, the amendment was not presented earlier because it is prompted by citation of prior art which was not made earlier in prosecution.

The rejections under 35 USC 103 are all respectfully traversed for the following reasons.

None of the references of record suggest use of a cathode body with a film of a platinum group catalyst on the surface of the cathode facing an electrolyte membrane.

Further, to the extent that the teachings of Allen et al are relevant to this point, they would suggest rendering the catalyst film hydrophobic, rather than the body of the cathode, i.e., a cathode structure the reverse of that recited by claim 1 as amended.

Further, it is respectfully submitted that the reference combination is improper because one skilled in the art would not have been motivated to substitute the cathode of Allen et al for that of Koschany. The teaching from Allen et al which is reproduced at page 4 of the office action must be read in light of the four lines or so which immediately precede same and in light of the background of the invention as described at column 3, lines 25-50 of Allen et al. The "pretreatment usually called for in the case of the carbon paper substrate" (quoting from column 5, lines 40 and 41) has reference to the prior art as described at column 3, lines 25-50. Allen et al, as well as the relevant prior art discussed in Allen et al, relate to liquid electrolyte containing electrochemical cells. See column 1, lines 7-15 and the background discussion which continues through column 3, line 50. As further described therein the problem to which Allen is directed is the flooding of the catalyst sites by the liquid electrolyte. Allen et al repeatedly refer to "the electrolyte flooding problem." As taught at column 3, lines 25-50 of Allen et al the prior art approach to this problem was to coat the carbon paper with Teflon, which approach "confines the catalytic layer to a surface coating bonded merely to one face of the paper substrate." In order to overcome this problem Allen et al employ "a uniform mixture of Teflon or similar wet-proofing particles and catalytic carbon particles

embedded and adhered within the cloth pores," quoting from column 3, lines 56-59 of Allen et al. As taught at column 5, lines 29-57 of Allen et al, a portion of which is reproduced by the examiner, Allen et al obviates "the necessity of rendering the carbon cloth hydrophobic by a Teflon pretreatment, or otherwise, prior to application." In the teaching from column 5 quoted by the examiner Allen et al attributes the advantages of their invention "to the uniformity of the catalyst layer evenly embedded within the cloth..." Thus, Allen et al describe their invention as an improvement over the prior art structure where the catalyst was confined to a surface coating on the Teflon coated paper substrate. The use of a cathode/catalyst as defined by claim 1 here involves use of a structure closer to the prior art described by Allen at column 3 than does the cathode which Allen et al describe as their invention. Allen et al lead away from the use of the cathode as in the present invention in the same sense that the teachings of Allen et al lead away from the prior art. Thus the teaching reproduced by the examiner leads away from, rather than toward the present invention. Perhaps, more importantly, the only motivation for the use of Teflon in accordance with the invention of Allen et al and/or in accordance with the prior art as described by Allen et al is the aforementioned "electrolyte flooding problem" of the catalyst sites. See, for example, column 3, line 14 of Allen et al. That motivation does not exist in the context of the reference combination fashioned by the examiner here because the examiner's primary reference employs a solid phase electrolyte membrane, not a liquid electrolyte. It necessarily follows that the problem to which the invention of Allen et al is directed, i.e.,

the problem to which the "motivation" cited by the examiner is directed, which is the same problem to which the prior art described by Allen et al is directed, is necessarily absent from the process of the examiner's primary reference (Koschany).

For the foregoing reasons, it is respectfully requested that the examiner reconsider the rejections of record with a view toward allowance of the claims as amended.

Respectfully submitted,

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